

ABSTRACT OF THE DISCLOSURE

A tunable dispersion compensation device comprises an optical waveguide having a grating, a plurality of heaters arranged along an optical axis of the optical waveguide, and a pulsed-current supplying unit for producing a desired temperature distribution in the grating by supplying a plurality of pulsed currents to the plurality of heaters, respectively. The grating can be a chirped grating. The pulsed-current supplying unit can include a pulse width control unit for adjusting the pulse widths of the plurality of pulsed currents supplied to the plurality of heaters, respectively, according to the desired temperature distribution to be produced in the grating. Preferably, the pulsed-current supplying unit supplies the plurality of pulsed currents to the plurality of heaters at different times, respectively.